

Re: no DVI with VAIO in docking station

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<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.hardware/2008-07/msg00615.html>

- *From:* "R. Meijn" <rmeijn@xxxxxxxxxxxxxxxx>
 - *Date:* Thu, 24 Jul 2008 00:25:15 +0200
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Paul,

I am very grateful for your response.

Following your suggestions I downloaded Monitor Asset Manager 1.26 and received a query running the tool.

So obviously the low speed serial interface is working.

The report generated did not specify any reference to DVI; any suggestion why DVI-interface and protocol would not be recognized?

Kind regards,

René Meijn
Hoeven
The Netherlands

"Paul" <nospam@xxxxxxxx> wrote in message [news:g67nbn\\$1ur\\$1@xxxxxxxx](mailto:news:g67nbn$1ur$1@xxxxxxxx)

R. Meijn wrote:

LS,

Brief description: monitor does not connect with docking station over DVI while VGA works fine.

Configuration: Sony VAIO model VGN-BX297XP, with docking-station VGP-PRBX1 and Philips LCD monitor 200XW7.

Above configuration worked fine until some months ago the monitor broke down and was replaced by a new one.

Next, the monitor did not connect at all (neither DVI nor VGA) and the laptop was sent to a Sony repair station where motherboard (graphics card), optical disk drive and harddisk were replaced.

After repair of the laptop, the docking station still did not give DVI output; and finally the docking station was replaced by a brand new one with no result.

So in effect, a new monitor and a (virtually) new laptop in a new docking station have a major problem: no DVI output.

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The drivers for the monitor were reinstalled; Windows indicates hardware works fine, but it only does with VGA (both laptop direct and docking station).

Updating the drivers for the graphics card (Radeon Mobile X700) results in a Windows dialog-box indicating that the latest revisions are installed.

Regarding troubleshooting I am really out of options; please advise.

Kind regards,

René Meijn
Hoeven
The Netherlands

The pinout for a DVI connector is here.

http://en.wikipedia.org/wiki/Digital_Visual_Interface

The functions on a DVI connector, might be described as follows

- 1) Jack sensing. The computer may have the ability to detect that a monitor has been plugged in. In the case of the VGA connector on older computers, the graphics card can sense whether a 75 ohm load has been placed on the RGB signals. In the case of DVI digital, the GPU might be looking for a 100 ohm load across the signal pairs.
- 2) The computer queries the capabilities of the monitor, via the DDC/CI serial interface. This is a low speed interface. The monitor specifies things, like the maximum resolution supported. Not all display devices have a working DDC/CI interface (such as projection devices for home theatre). But DDC should be used on computer display devices, both VGA and DVI-D.
- 3) The actual signals carrying the image. For analog video, the signals would be RGBHV (red, green, blue, horizontal_synchronization, vertical_synchronization). For digital video, there are three differential pairs carrying RGB, and an additional differential pair carrying a reference clock signal.

Now, the question would be, what things can you test ?

- 1) To test jack sensing, you'd need to see the Display control panel respond,

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when the DVI connector is plugged in. (You're looking for any response that suggests the laptop has noticed that a monitor has been plugged in.)

2) There is a program for checking what is coming across the DDC serial interface.

3) I don't know of an easy way for an end user to check the actual signal content for the RGB and so on. So verifying the signals is much more difficult. Even in the lab, it would take an expensive instrument to verify the DVI digital signals, due to their high speed (1650 megabits/sec maximum). In my old lab, we might use a 40GHz sampling scope for that, and examine the eye diagram on a signal pair.

The simplest test you can do, is (2), and the program to use is here. Plug in the DVI monitor, and then use this program. See if the information for the DVI monitor is displayed in the window. If the information is displayed, it means the connector is making contact and the low speed serial interface is working.

<http://www.entechtaiwan.com/util/moninfo.shtm>

The video driver may not turn on the video output, unless the jack sensing function is working. For desktop video cards, when a TV connected to the composite video output doesn't work, the control panel offers a "force" function, to turn on the composite output. But as far as I know, that function is not made available for VGA or DVI outputs.

Paul